



**DEPARTMENT OF THE ARMY**  
HEADQUARTERS 4TH INFANTRY DIVISION (MECHANIZED)  
FORT HOOD, TEXAS 76544-5068

REPLY TO  
ATTENTION OF:

AFYB-CG

**MEMORANDUM FOR SEE DISTRIBUTION**

**SUBJECT: Command Policy Memorandum Safety – 02 Portable Space Heaters**

**1. References.**

- a. Army Regulation 385-10, The Army Safety Program, February 2000.
- b. Army Regulation 600-55, The Army Driver And Operator Standardization Program, December 1993.
- c. Army Regulation 420-90, Fire And Emergency Services, September 1997.
- d. Fort Hood Regulation 420-1, Fire Regulations, October 1981.

**2. Applicability.** This policy applies to all personnel assigned or attached to the 4<sup>th</sup> Infantry Division, to include the Army National Guard and Army Reserve Soldiers.

**3. Purpose.** To establish portable space heater policy in the 4<sup>th</sup> Infantry Division.

**4. General.** Improperly operated and nonstandard field space heaters have historically posed safety and health hazards. Carbon monoxide and carbon dioxide emissions, suffocation, fires, and explosions are potential hazards associated with these heaters that have resulted in injuries, fatalities, and equipment damage in the past. Risk assessments and common sense dictate that leaders ensure that Soldiers use only standard/safe space heaters.

**5. Portable Space Heater Policy.**

a. Use only Army approved heaters. Unvented and nonstandard heaters are not authorized. This prohibition applies in guard shacks, tents, life-support areas, morale, welfare, and recreation facilities, and other locations that require portable heaters.

b. Personnel will be qualified and licensed IAW AR 600-55 to operate all Army approved heaters. Training will be IAW the applicable TM. Training will be designed to establish and reinforce safe operating habits and positive attitudes toward the operation of this equipment. Equipment training procedures are provided in each of the heater or stove operators and maintenance manuals. Training emphasis will include safety.

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c. Heaters will be placed on a flat level surface. When tent floors are canvas, wood, or other combustible materials, heaters will be placed in a "sandbox" base. This box can be made of lumber with a noncombustible base extending 6 inches on all sides beyond the heater. The "sandbox" should contain 3-4 inches of sand/dirt. Combustibles must be kept 4 feet from the heater.

d. Only authorized fuels IAW operator's manual will be used. Fuel substitution and mixing of different fuels is potentially dangerous and can cause explosions and fires. Fuel systems (including fuel tanks, fuel lines, and connections) must be checked daily for leaks and malfunctions. Heaters with fuel leaks will be NMC until repaired. Where applicable, fuel tanks will be located outside the tents or shelters as far as the hose will allow. Fuel for heaters and stoves, other than that in the reservoirs, will be stored a minimum of 50 feet from the outside wall of the tent and have appropriate secondary containment.

e. When portable space heaters are in use, fireguards will be awake and on duty. Fireguards will be effectively briefed on watch duties, emergency and fire fighting procedures, early recognition of carbon monoxide poisoning symptoms, and first aid. The use of smoke and carbon monoxide detectors is encouraged.

f. A 10-pound (ABC) chemical fire extinguisher must be posted in each location of a stove or heater.

g. All heated areas will be continuously and adequately ventilated.

6. The Army has introduced a new Family Of Space Heaters (FOSH) for use. Information on these new space heaters is attached in enclosure #1.

7. In order to ensure the safety of our Soldiers, only Army approved portable space heaters will be used in 4ID. The Division Commander is the approval authority for any deviations from this policy. The point of contact for this memorandum is the Division Safety Office, 287-0852. This policy will remain in effect until superceded or rescinded

Steadfast and Loyal

  
JAMES D. THURMAN  
MG, USA  
Commanding

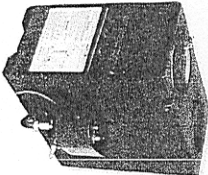
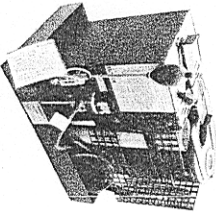
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Enclosure 1

Name	Picture	NSN	BTU	Size/Weight	Tent	Unit Cost
H-45 Space Heater		4520-01-329-3451	45K	18"Dia x 24"H 65 lbs	GP MGPTS MCPS TEMPER	\$553.00
Space Heater Arctic (SHA)		4520-01-444-2375	28K	17"H x 9"W x 17"L 41 lbs	5 Men & 10 Men Arctic	\$783.00
Space Heater Small (SHS)		4520-01-478-9207	12K	14"H x 9"W x 16"L 35 lbs	SCT	\$664.00
Space Heater Convective (SHC)		4520-01-431-8927	35K	18"H x 14"W x 40"L 78 pounds	MCPS	\$6,668.00
Thermoelectric Fan (TEF)		4520-01-457-2790	N/A	14" Dia X 10" H	Used with H-45 & SHA	\$590.00



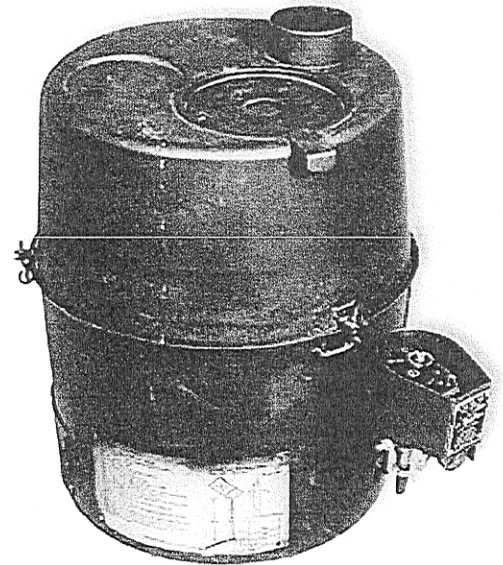
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Enclosure 1

### **Family of Space Heaters: H-45 Space Heater**

#### **Overview:**

The H-45 Space Heater is a 45K BTU heater that is designed to provide heat for the General Purpose tents (Small, Medium and Large), TEMPER tents and TOCs. The H-45 heater replaces the antiquated M-41 heater that has severe operational deficiencies and poses a serious safety hazard in the field. The H-45 heater operates without the use of electrical power and can burn all types of liquid fuel (DF-2, DF-1, DF-A, JP-5, JP-8, JP-4, and gasoline) and solid fuel (wood and coal). It utilizes the new vaporizing R-tube burner technology that overcomes the major combustion and safety problems that have existed over the past 50 years in the non-powered heater industry. These problems include poor smoky combustion of diesel fuel and the hazardous exposure of a pool of raw fuel during operation. The new vaporizing R-tube burner technology eliminates these deficiencies while still maintaining simplicity, ruggedness, and low cost.



The NSN for the H-45 heater is 4520-01-329-3451. The cost is around \$550 including all accessories.

#### **Description:**

The H-45 heater measures 18" diameter × 24" high and weighs 65 lbs, including all accessories (stack, flue cap, gravity feed adapter, hoses, fuel can stand, etc). The H-45 Heater is operational in temperatures ranging from -60° F to 60° F, and can be stored in temperatures ranging from -60° F to 160° F.

The H-45 heater is designated as a CTA item. Field units can purchase the H-45 by sending funded requisitions to Defense Supply Center Philadelphia (DSCP).

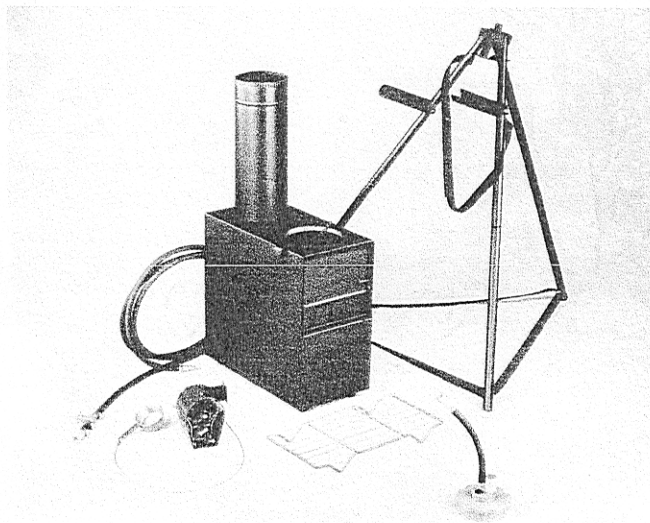
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### **Family of Space Heaters: Space Heater Arctic (SHA)**

#### **Overview:**

The Space Heater Arctic (SHA) is a lightweight; portable, multi-fueled, non-powered heater intended to heat five and ten man arctic tents. Provides a maximum heat output of 28K BTU with a high/low adjustment capability. The SHA replaces the current Yukon heater that has severe operational deficiencies and poses a serious safety hazard in the field. The SHA operates without the use of electrical power and can burn all types of liquid fuel (DF-2, DF-1, DF-A, JP-5, JP-8) and solid fuel (wood and coal). The SHA utilizes the new vaporizing S-tube burner technology that overcomes the major combustion and safety problems that have existed over the past 50 years in the non-powered heater industry. These problems include poor smoky combustion of diesel fuel and the hazardous exposure of a pool of raw fuel during operation. The new vaporizing S-tube burner technology eliminates these deficiencies while still maintaining simplicity, ruggedness, and low cost.



The NSN for the SHA is 4520-01-444-2375. (LIN: H39664). The cost is \$783 including all accessories.

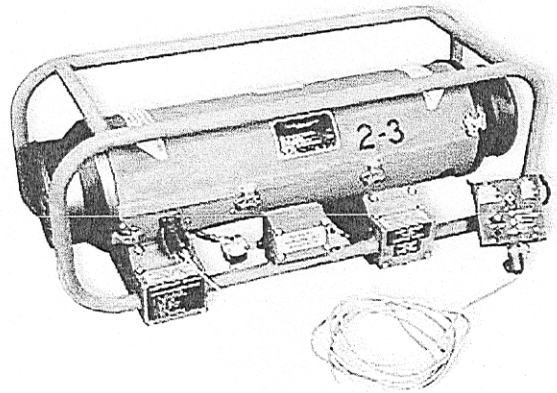
#### **Description:**

The SHA measures 17" H x 9" W x 17" L and weighs 41 lbs, including all accessories. These accessories are comprised of the stack, flue cap, gravity feed adapter, fuel can stand and hoses. All accessory components, including the pre-assembled, telescoping stove pipe, can be stored within the heater making it highly mobile and easy to assemble. The SHA is operational in temperatures ranging from -60° F to 60° F, and can be stored in temperatures ranging from -60° F to 160° F. The SHA heater is designated as a CTA item. Field units can purchase the SHA by sending funded requisitions to Defense Supply Center Philadelphia (DSCP).

## Family of Space Heaters: Space Heater Convective (SHC)

### Overview:

The Space Heater Convective (SHC) is a 35K BTU thermoelectric heater that provides forced hot air circulation in military tentage without the need for an external power supply. This eliminates the need for a field generator. The SHC's intended applications include the Modular Command Post System, TOCs, and other tents housing expensive electronics equipment. The SHC is the first of its kind to successfully integrate thermoelectrics and combustion into a fieldable heater prototype that delivers clean, breathable heat to military tentage and shelters.



The thermoelectric heater generates its own electrical power (approximately 200 watts) through the use of thermoelectric modules located in the combustion chamber. These modules convert waste heat into electrical energy, which is used to power the blowers, pumps, ignition system, safety system, and control devices required in the operation of the heater. The heater provides a 60% increase in combustion efficiency over currently fielded non-powered heaters and provides much cleaner combustion of diesel fuel, translating to significantly reduced fuel costs and maintenance requirements.

The NSN for the SHC is 4520-01-431-8927 (LIN: H39732). The cost is \$6668 including all accessories.

### Description:

The SHC is 18"H x 14"W x 40"L and weighs 74 pounds. It is operational from -40° F to 60° F, and can be stored from -60° F to 160° F. The heater can be operated either inside or outside the tent and has the capability to burn multiple liquid fuels (DF-2, DF-1, DF-A, JP-5, & JP-8). The heater starts simply using a single switch, and operation are completely automatic due to built in diagnostics, safety and temperature controls. Accessories include remote temperature control box, cable, insulated air ducts, fuel hoses, gravity feed adapter, fuel can stand and spare parts.

The SHC heater is designated as a CTA item. Field units can purchase the SHC by sending funded requisitions to Defense Supply Center Philadelphia (DSCP).

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### **Family of Space Heaters: Thermoelectric Fan (TEF)**

#### **Overview:**

Standard military tent heaters operate inside a tent without the use of external electrical power and transfer heat by means of radiation and natural convection. The heat rises to the top leaving the floor and extremities of the tent cold. This translates into poor habitability conditions and excessive fuel consumption. The Thermoelectric Fan (TEF) operates with standard military tent heaters (SHA and H45) to circulate heated air, improve habitability conditions and significantly reduce fuel usage while generating its own electrical power.



The NSN for this item is 4520-01-457-2790. (LIN: F51430). The price is around \$590.

#### **Description:**

The TEF is a silent, compact, rugged fan unit (14" in diameter and 10" high) that is placed on top of the standard military tent heaters (H45 and SHA). A built-in thermoelectric module converts heat from the top surface of the heater into electricity to power a 450 CFM fan. The fan moves heated air to the bottom and corners of the tent, providing more even heat distribution throughout the entire shelter. Improved heat distribution delivers more comfortable living/working conditions, improved health and morale, and significant fuel savings for soldiers in the field.

Testing indicates that the TEF can provide an increase of over 20°F at the floor level of the tent. This allows the soldier to operate their heaters at much lower firing rates, saving a significant amount of fuel and increasing comfort levels in the tent. Tests show that up to 50% fuel savings can be achieved. For extreme cold weather conditions this translates into a cost savings of about \$450 per season in a 10-Man Arctic Tent and \$2,800 per season in a General Purpose Medium (GPM) tent equipped with two heaters and two TEFs.

The TEF is designated as a CTA item. Field units can purchase the TEF by sending funded requisitions to Defense Supply Center Philadelphia (DSCP).



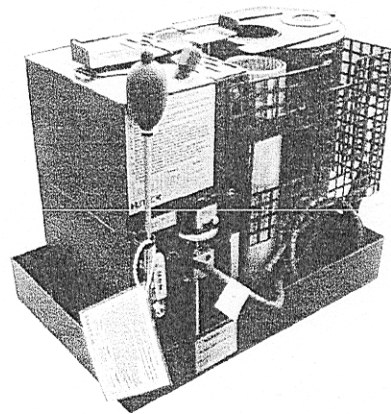
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### **Family of Space Heaters: Space Heater Small (SHS)**

#### **Overview:**

The Space Heater Small (SHS) is a 12K BTU heater that is designed to provide heat for the Soldier Crew Tent (5-man tent) and other small tentage with floor area between 80 and 100 square feet. The SHS will satisfy a heating requirement for small military tentage in which there is currently no existing heater that can meet this requirement. The SHS operates without the use of electrical power and can burn all types of liquid fuel (DF-2, DF-1, DF-A, JP-5, JP-8). The SHS utilizes the new vaporizing S-tube burner technology, which overcomes the major combustion, and safety problems that have existed over the past 50 years in the non-powered heater industry. These problems include poor smoky combustion of diesel fuel and the hazardous exposure of a pool of raw fuel during operation. The new vaporizing S-tube burner technology eliminates these deficiencies while still maintaining simplicity, ruggedness, and low cost.



The NSN for this item is 4520-01-478-9207. The unit cost is around \$664 including all accessories.

#### **Description:**

The SHS measures 13.7" H x 8.5" W x 16" L and weighs 32 lbs, including all accessories. The integral fuel tank design eliminates the need for hoses, gravity feed adapter, fuel can and fuel can stand. The SHS is operational in temperatures ranging from -60° F to 60° F, and can be stored in temperatures ranging from -60° F to 160° F.

The SHS heater is designated as a CTA item. Field units can purchase the SHS by sending funded requisitions to Defense Supply Center Philadelphia (DSCP).